

Cumulative Index 1991

Volume 18

March	CHEMICAL DEPENDENCY AND PREGNANCY, pages 1-191
June	NEONATAL SEPSIS, pages 193-387
September	NEWER TECHNOLOGIES AND THE NEONATE, pages 389-651
December	HYPERTENSION AND PREGNANCY, pages 653-925

Note: Page numbers of issue and article titles are in **boldface** type.

Abortion, spontaneous, and substance abuse, 28
Acetylsalicylic acid. See *Aspirin*.
Adolescents, pregnant, and substance use, 125-138
 background information, 127-130
 current studies, 132-133
 future directions, 133-138
 family, health care, and environmental implications, 134-135
 research implications, 135-136
 past studies, 130-132
Adrenoceptors, 686
Air leaks, high-frequency ventilation treatment, 574
Airway pressure measurement, 585
Alcohol use in pregnancy, 93-111
 adverse effects, 100-101
 alcohol related birth defects, 100-101
 fetal alcohol syndrome, 100
 breast feeding, 104
 counseling and prenatal care, 104-106
 genetic predisposition, 104-105
 definitions, 93-94
 alcohol abuse, 93
 alcohol dependence, 94
 alcoholic beverages, 94
 drinking patterns, 98-99
 economic implications, 104
 incidence, 94
 metabolism of aliphatic alcohols, 94-97
 serum ethanol levels, intoxication symptoms, 96-97

recognition and assessment of abuse, 102-103
teratogenicity, 99-100
Alcohols, aliphatic, metabolism of, 94-97
Aldosterone, in normal pregnancy, 695
 and renin release, 689. See also *Preeclampsia*.
Amniotic fluid, foul smelling, and neonatal sepsis, 364
Anemia in parvovirus B19 infection, 215-216
aplastic, 215
 chronic, 215-216
Anemometer, hot wire, 584-585
Anesthesia, for preeclampsia, 875-889
 in labor and delivery, 885-886
 epidural, 886
 parenteral narcotics, 885
 management, 878-885
 epidural anesthesia, 880-881
 general anesthesia, 881-885
 labetalol, 884-885
 nitroglycerine, 884
 nitroprusside, 883-884
 trimethaphan, 884
 monitoring, 879-880
 preoperative preparation, 878-879
 and pulse oximetry, 464-465
Angiography, cerebral pathology in preeclampsia, 901-902
Angiotensin. See *Preeclampsia*.
Angiotensin II, in normal pregnancy, 693
 in preeclampsia, 699
 and renin release, 687-689

Angiotensin II (*Continued*)
sensitivity, 693-695, 699-700

Angiotensin converting enzyme, inhibitors, 853
in normal pregnancy, 693
in preeclampsia, 698-699
and renin release, 687

Angiotensinogen, in normal pregnancy, 692-693
and renin release, 687

Animal models, using magnetic resonance spectroscopy, 545

of opiate, cocaine, and cannabis use, 1-22
cannabis and delta-9-tetrahydrocannabinol, 12-18
brain DNA, RNA, and protein, 17
chemistry, 13-15
delta-9-tetrahydrocannabinol, 15
plasma levels, 18
maternal nutrition and embryotoxicity, 15-16
offspring, behavior, 16-17
growth, 16

cocaine, 8-12
maternal-fetal physiology, 9-10
neurobehavioral effects, 10-12
neurotoxicity, 10

opiates, 2-8
methadone studies, 2-5
neonatal withdrawal, 5-8

Antibodies, congenital and acquired deficiency, immunoglobulin therapy, 311
in HIV infection, 37-38, 230

Antigens, bacterial, and neonatal sepsis, 368-369

HIV, 37

P24, in HIV infection, 229

Antihypertensive drugs, Doppler flow velocimetry, 766-769
maternal, fetal assessment, 824-825
in preeclampsia, 796-799
in pregnancy, 841. See also *Hypertension and pregnancy*.

Antithrombin III, 714-716

Apnea, obstructive, 477-478

Artificial skin. See *Thermoregulation*.

Asphyxia, perinatal, and neonatal sepsis, 364

PET measurements, cerebral blood flow, 556-557
deoxyglucose uptake, 557

Aspirin, and preeclampsia, 657-658, 787-788

Auditory system. See *Evoked potential assessment of auditory system*.

Baroreceptor, intrarenal, 685

Behavior, cannabis effects, 16-17

Biomedical technology, 389-401
guidelines, 398-400
intelligent use, 398-399
research, 399-400
self-restraint, 399
risks and pitfalls, 397-398
use of, 391-397
to alleviate work load of caretakers, 394-395
to impress other physicians, patients, and visitors, 397
to improve care and diagnostic ability, 391-393
to improve documentation, 395-396
and medical liability, 396-397

Biophysical testing, antepartum fetal, 820

Birth defects, alcohol related, 101, 104
and substance abuse, 27

Blood culture, for neonatal sepsis, 366

Blood flow, cerebral. See *Positron emission tomography*.
fetal and placental, Doppler flow velocimetry, 750-751

Blood pressure, in hypertension and pregnancy, 846-847
in preeclampsia, 728-730
in pregnancy, 654-655

Blood volume in preeclampsia, 727-728

Body, electrical conductivity. See *Electrical conductivity, total body*.
hoods. See *Thermoregulation*.

weight and growth, and pulmonary function, 605

Brain, DNA, RNA, and protein, cannabis effects, 17
magnetic resonance spectrum, 537-540

Brainstem, auditory response, 500-506

Breast feeding, and alcohol use, 104
and cocaine use, legal issues, 164-165
and substance abuse, 70

Bronchopulmonary dysplasia, and mycoplasmal infections, 245-248

Bunnell Life Pulse, 564-566

C-reactive protein, and neonatal sepsis, 372-373

Calcium, and preeclampsia, 658

Calcium channel blockers, for hypertension in pregnancy, 853

Candidiasis, neonatal, 263-280
congenital, 265-267
diagnosis, 272-273
postnatal colonization, 267-268
postnatal mucocutaneous infection, 268-269

predisposing factors, 264-265
systemic, in low birthweight infants, 269-272

cardiovascular, 270
central nervous system, 270
cutaneous, 272
endophthalmitis, 270-271
gastrointestinal, 271
osteoarthritis, 272
pulmonary, 269-270
urinary tract, 271
in term infants, 272
treatment, 273-275

Cannabis, animal models of use, 12-18
See also *Marijuana use in pregnancy*.
Capillary wedge pressure, pulmonary, 733
Cardiac output, antihypertensive drugs, 850-851
in preeclampsia, 730-732
Cardiomyopathy, in HIV infection, 232-233
Cardiorespiratory monitoring, 473-495
apnea, obstructive, 477-478
blood gases, 476-477
documented monitoring, 483-494
heart rate, 475-476
pneumograms, 478-483
clinical usefulness, 479-483
performance and analysis standards, 478-479
respiration, 474-475

Cardiovascular system, aspirin effects, 788
candidiasis, 270
of pregnant substance abuser, 26.

Central nervous system, candidiasis, 270
mycoplasmal infections, 249-252

Cerebral, blood flow, and neuronal viability
and neurologic outcome, 558
in perinatal asphyxia, 556-557
PET measurements, intraventricular
hemorrhage, 555-556
hypoxia-ischemia, 540-542
oxygen metabolism, PET measurements, 559
ultrasonography, and magnetic resonance
spectroscopy, 543-545

Cerebrospinal fluid, in eclampsia, 895-896
in neonatal sepsis, 366-367

Chemical dependency and pregnancy, 1-
186

adolescent substance use, 125-138
background information, 127-130
current studies, 132-133
future directions, 134-136
past studies, 130-132

alcohol use, 93-111
adverse effects, 100-101
breast feeding, 104
counseling and prenatal care, 104-106
definitions, 93-94
fetal alcohol syndrome, 100-101
incidence, 94
metabolism of aliphatic alcohols, 94-97
in pregnancy, 97-99

recognition and assessment of abuse, 102-103
teratogenicity, 99-100
animal models of opiate, cocaine, and can-
nabis use, 1-22
cannabis and delta-9-tetrahydrocanna-
binol, 12-18
cocaine, 8-12
opiates, 2-8
cocaine use, 113-123
and developmental defects, 139-146
background data, 139-141
prenatal effects, 141-144
methodologic issues, 117-120
pharmacology and clinical outcome, 120-121
review of current studies, 113-117
drug use in pregnancy, 23-32
detection, 25
management, 26-30
prevalence, 24-25

HIV infection, 33-50
and course of HIV infection, 42-43
detection of, 36-39
epidemiology, 35
life cycle of HIV virus, 33-34
management, 43-46
perinatal issues, 39
and pregnancy outcome, 41-42
risk of perinatal transmission, 39-41
transmission modes, 35-36

legal issues, 147-186
historical background, 148-164
state intervention, 164-183

marijuana use, 77-91
epidemiology, 77-80
infant outcome, 83-86
long-term effects on offspring, 86-87
methodologic issues, 80-83

narcotic use, 51-76
breast feeding, 70
cofactors and complications, 56-57
diagnosis, 57-60
management, 62-67
intrapartum, 68-69
postpartum, 71-72
neonatal abstinence syndrome, 68-70
neonatal withdrawal and infant out-
come, 71

opioids, disposition and pharmacology,
53-54
uses in pregnancy, 67-68

teratogenicity, 54-56
work-up of pregnant addict, 60-62

Chemotherapy for herpes simplex virus
infection, 202-204

Child abuse law, 154-159

Childbirth. See *Legal issues, drug addiction
and pregnancy*.

Children, long-term effects of prenatal marijuana exposure, 87

Chorioamnionitis, 362-363

Chromatography, high performance liquid, 635
thin layer, 632-634

Civil intervention during pregnancy, 181-182

Classification, chronic hypertension in pregnancy, 833

coagulase-negative staphylococci, 282-283

Clinicopathology of diagnosis of neonatal sepsis, 361-381

diagnostic tests, nonspecific, 369-375
acute phase reactants, 373
C-reactive protein, 372-373
erythrocyte sedimentation rate, 373
miscellaneous tests, 373-374
screening tests, 375
white blood cell count, 369-372

laboratory tests, specific, 365-369
bacterial antigens, 368-369
blood culture, 366
cerebrospinal examination and culture, 366-367
tracheal aspiration, 368
urine culture, 367-368

management, 375-377
asymptomatic neonate, 375-377
symptomatic neonate, 375

risk factors, 362-365
additive risks and screening scores, 364
amniotic fluid smell, 364
asphyxia, perinatal, 364
male gender, 364
maternal colonization with group B streptococcus, 363
maternal urinary tract infection, 364
prematurity, 363-364
prolonged rupture of membranes and chorioamnionitis, 362-363

Coagulation, aspirin effects, 789. See also *Preeclampsia*.

Cocaine, in pregnancy, 113-123
animal models of use, 8-12
and breast feeding, legal issues, 164-165
and developmental defects, 139-146
background data, 139-141
prenatal effects, 141-144
methodologic issues, 117-120
comparison groups, 120
environment, 119-120
pattern of use and dose, 118-119
polydrug use, 117
site of study, 118
timing, 117-118

pharmacology of, and clinical outcome, 120-121
review of current studies, 113-117

Colloid oncotic pressure, 735-737

Color or spot test, in prenatal drug exposure, 632

Compliance. See *Pulmonary function, measurement and monitoring*.

Computerized tomography, cerebral pathology in eclampsia, 898-901

Conductive impairment, and auditory brainstem response, 505

Confidentiality, maternal, 152
child abuse law, 156-157

Constitutional law. See *Legal issues, drug addiction and pregnancy*.

Corneal ulceration, fibronectin therapy, 328-330

Cortical auditory evoked potentials, 507-509

Counseling, alcohol use in pregnancy, 105-106
for HIV infection, 236

Covariates of marijuana use during pregnancy, 83

Criminalization. See *Legal issues, drug addiction and pregnancy*.

Cruel and unusual punishment, 154

Cutaneous candidiasis, 272

Cytokine therapy, 343-359
granulocyte-colony stimulating factor, 348-349
granulocyte-monocyte colony stimulating factor, 347-348
hematopoiesis, 346-347
hematopoietic colony stimulating factors, 345-346
interleukin-3, 349-350
myeloid abnormalities, 344-345
myeloid progenitor deficiency, 344
neutrophil storage pools, 344-345
neutrophil physiological function, 345
and neonatal host defense, 351-355
mature cell effector function, 353
myeloid proliferation and kinetics, 351-353
sepsis modulation, 354-355
other cytokines, 350-351

Data interpretation, in near-infrared spectroscopy, 525-527
respiratory mechanics measurements, 604-606

Delivery room, HIV infection, 234
pulse oximetry in, 463-464

Delta-9-tetrahydrocannabinol, animal models of use, 12-18

Deoxyglucose uptake, in perinatal asphyxia, 557

Development, aspirin effects, 789
cerebral glucose metabolism, 558
fetal vascular disruption, cocaine effects, 139-146

Diazoxide, for hypertension in pregnancy, 852

Diuretics, for hypertension in pregnancy, 854

DNA, brain, cannabis effects, 17

Documentation, and biomedical technology, 395-396

cardiorespiratory monitoring, 483-494

Doppler flow velocimetry, 749-778

antepartum fetal, 821-824

blood flow, fetal and placental, 750-751

during drug therapy, 764-772

- antihypertensive therapy, 766-769
- labetalol, 764-766
- nifedipine, 764-766
- in preeclampsia, 769-772

and maternal and fetal well being, 756-757

and other fetal monitoring tests, 757-763

safety of, 772

as screening test, 755-756

spectrum analysis, 751-752

waveforms, 751

- fetal and uteroplacental, 753-754
- pathophysiology of abnormalities, 754-755

shaping factors, 752-753

Drugs, in pregnancy, 23-32

- detection, 25
- management, 26-30
- chemical dependency, 29-30
- health education, 30
- labor management, 30
- maternal complications, 26-27
- obstetrical complications, 27-29
- social services, 30
- prevalence, 24-25

prenatal exposure, 629-645

- laboratory tests, 631-636
- gas chromatography, 635
- and mass spectrometry, 636
- high performance liquid chromatography, 635
- immunoassay, 634-635
- thin layer chromatography, 632-634

maternal interview, 630-631

specimens used, 636-643

- hair, 641-643
- meconium, 637-641
- other fluids and tissues, 643
- urine, 636-637

Eclampsia, cerebral pathology, 891-910

- diagnosis and clinical features, 891-892
- management, 902-907
- neurodiagnostic evaluation, 895-902
- angiography, 901-902

cerebrospinal fluid pressure monitoring, 895-896

computerized tomography, 898-901

electroencephalogram, 896-898

magnetic resonance imaging, 901

pathology, 895

pathophysiology, 893-894

visual manifestations, 902. See also *Preeclampsia*.

Ecology, of coagulase-negative staphylococcal infection, 284-285

Edema, pulmonary, 737-740

Electrical conductivity, total body, 611-627

- applications, 622-624
- data interpretation, 617-621
- biologic meaning, 617-618
- fat-free mass, 618-621
- future developments, 624-625
- instrumentation, 615-616
- measurement precision and accuracy, 621-622
- tissue properties and measurement theory, 612-615

Electroencephalogram, cerebral pathology in preeclampsia, 896-898

Electrolytes, and renin release, 686

Electrophysiology of auditory system evaluation, 498-499

ELISA, of HIV infection, 230

Embryopathy, in HIV infection, 232

Endocarditis, in coagulase-negative staphylococcal infection, 289

Endophthalmitis, 270-271

Endothelium in preeclampsia, 669-671

Enterocolitis, necrotizing, 290

Environment, and cocaine use, 119-120

- and pregnant adolescents, 134-135

Epidemiology, of coagulase-negative staphylococcal infection, 283-284

- of HIV infection, 35, 227
- of marijuana use during pregnancy, 77-80
- of mycoplasmal infections, 242-243
- of parvovirus B19, human, 212

Epidural anesthesia, 880-881, 886

Equal protection, legal issues, 153-154

Erythema infectiosum, 213-214

Erythrocyte sedimentation rate, and neonatal sepsis, 373

Eosphagus, pressure measurements, 585-587

Ethanol serum levels, 96-97

Etiology of chronic hypertension in pregnancy, 833

Evoked potential assessment of auditory system, 497-518

- auditory brainstem response, 500-506
- automatic screening, 505-506
- and conductive impairment, 505
- test stimuli, 504
- when to test, 502-503

Evoked potential assessment of auditory system (*Continued*)
 where to test, 503-504
 case studies, 509-516
 brainstem response threshold elevation
 with near-normal hearing, 511-514
 normal ABR with cortical dysfunction, 514-516
 transient threshold elevation, 509-511
 unilateral hearing loss status post meningitis, 511
 cortical auditory evoked potentials, 507-509
 electrophysiologic techniques, 498-499
 middle latency responses, 506
 Exhalation, passive, 594-595

Factor VIII, in preeclampsia, 716-717
 False-positive antibody tests, in HIV infection, 231
 Family of pregnant adolescents, 134-135
 Fat-free mass, from total body electrical conductivity, 618-621
 FDA status of high-frequency ventilators, 564-568
 Fetal alcohol syndrome, definition, 100
 economic implications, 104
 incidence, 100
 Fetus, alcohol effects, 96-97
 antepartum assessment, 809-832
 assessment methods in hypertensive pregnancies, 825-827
 biophysical testing, 820
 Doppler velocimetry of vascular system, 821-824
 fetal-placental pathophysiology in hypertension, 810-813
 heart rate testing, 814-820
 maternal antihypertensive agents, 824-825
 obstetric ultrasound, 813-814
 blood flow. *See Doppler flow velocimetry*.
 and chronic hypertension in pregnancy, 835
 coagulation, preeclampsia effects, 720
 cocaine effects, 9-10, 139-146
 legal issues. *See Legal issues, drug addiction and pregnancy*.
 parvovirus B19 infection, 217-219
 of pregnant substance abuser, 28-29
 risks of hypertension, 849-850
 Fibrin metabolism, 717-718
 Fibronectin therapy, 325-341
 clinical trials, 328-334
 in corneal ulceration, 328-330
 in multisystem organ failure, 330-334
 immunotherapy in newborn infants, 335-338

Gas chromatography, of prenatal drug exposure, 635
 and mass spectrometry, 636
 Gas exchange, in high-frequency ventilators, 568-573
 Gases, blood, in cardiorespiratory monitoring, 476-477
 Gastrointestinal candidiasis, 271
 Gastrointestinal system of pregnant substance abuser, 27
 Genetics of alcoholism, 104-105
 Gestation length, marijuana effects, 85
 Glasgow Royal Maternity Hospital protocol, 862-866
 Glucose metabolism, cerebral, developmental changes, 558
 Granulocyte-colony stimulating factor, 348-349
 Granulocyte-monocyte colony stimulating factor, 347-348
 Green light, for neonatal jaundice, 427-428
 Growth, cannabis effects, 16
 intrauterine, marijuana effects, 83-85
 retardation, and substance abuse, 28-29

Hair, in prenatal drug exposure, 641-643
 Halogen lamp (metal halide lamp), for neonatal jaundice, 428-429
 Health education for pregnancy substance abuser, 30
 Heart rate, in cardiorespiratory monitoring, 475-476
 fetal, 814-820
 HELLP syndrome in preeclampsia, 803-805
 Hematology, in parvovirus B19 infection, 215-216
 Hematopoiesis, 346-347
 Hematopoietic colony stimulating factors, 345-346
 Hemodynamics of preeclampsia. *See Preeclampsia*.
 Hemorrhage, intraventricular, PET measurements, 555-556
 Hepatosplenomegaly, in HIV infection, 233
 Herpes simplex virus infection, neonatal, 193-208
 antenatal screening programs, 193-196
 chemotherapy, 202-204
 determinants of disease acquisition and severity, 199-202
 recognition and diagnosis of, 196-199
 HFV Infant Star ventilator, 567

Homicide, of unborn fetus, 163-164

Host factors, in coagulase-negative staphylococcal infection, 285-286

Human immunodeficiency virus (HIV) infection, 227-239

- clinical manifestations, 232-233
- cardiomyopathy, 232-233
- embryopathy, 232
- hepatosplenomegaly, 233
- lymphadenopathy, 233
- opportunistic, 232
- pulmonary disease, 233
- recurrent or persistent infection, 233
- sexually transmitted, 232
- thrush, 233
- toxicology, 232

counseling, 236

epidemiology, 227

laboratory diagnosis, 228-232

- HIV antibodies, 230
- clonally distinct antibodies, 230
- ELISA, 230
- Western Blot, 230

HIV assays, 228-230

- lymphocyte p24-FCA, 230
- P24 antigen, 229
- polymerase chain reaction, 229
- viral culture, 228-229

immunoglobulin antibodies, 230-232

- false-positive antibody tests, 231-232
- IgA, 231
- IgG subclass, 230
- IgM, 230-231
- lymphocyte subclasses, 231
- neopterin, 232
- in vitro antibody synthesis, 231

management, 236

postnatal acquisition, 233-234

- cross infection, 234
- in delivery room, 234
- milk, 233
- needles, 234
- transfusion, 234

in pregnancy, 33-50

- and course of HIV infection, 42-43
- detection, 36-39
- antibodies, 37-38
- antigens, 37
- polymerase chain reaction, 38-39
- viral culture, 38

epidemiology, 35

life cycle of HIV, 33-34

management, 43-46

- antepartum, 44-45
- intrapartum, 45
- postpartum, 46

perinatal issues, 39

and pregnancy outcome, 41-42

transmission, 35-36

perinatal, 39-41

screening policy, 235-236

transmission, 228

treatment, 234-235

- agents, 235
- whom to treat, 234-235

Humming II ventilators, 566-567

Hydralazine, 852

Hypertension and pregnancy, 653-910

- chronic, 833-844
- antihypertensive drugs, 841
- control of, 836
- diagnosis, 833-834
- etiology and classification, 833
- management, 841-843
- maternal and fetal risks, 835
- mild hypertension, 837-840
- severe hypertension, 836-837

Doppler flow velocimetry, 749-778

- blood flow, fetal and placental, 750-751
- during drug therapy, 764-772
- and maternal and fetal well being, 756-757
- and other fetal monitoring tests, 757-763
- pathophysiology of abnormalities, 754-755
- safety of, 772
- as screening technique, 755-756
- spectrum analysis, 751-752
- waveform, 751
- physiologic changes, 753-754
- shaping factors, 752-753

ectampsia. See *Eclampsia, cerebral pathology*.

fetus, antepartum assessment, 809-832

- assessment methods, 825-827
- Doppler velocimetry of maternal and fetal vascular systems, 821-824
- fetal heart rate testing, 814-820
- fetal-placental pathophysiology, 810-813
- maternal antihypertensive agents, 824-825
- multiple parameter biophysical testing, 820
- obstetric ultrasound, 813-814

hypertensive drugs, 845-873

- angiotensin converting enzyme inhibitors, 853
- beneficial effects, 854-862
- chronic hypertension, 855-856
- mild to moderate hypertension, 859-860
- one therapy, two patients, 855
- preeclampsia, 856-857
- severe hypertension, 857-859
- cardiac output alterations, 850-851
- labetalol, 851
- centrally acting, 850
- methyldopa, 850

Hypertension and pregnancy (*Continued*)
 definition, 845-848
 blood pressure levels, 846
 blood pressure measurements, 846-847
 causes, 848
 diagnosis, 847-848
 types of hypertension, 845-846
 diuretics, 854
 fetal-placental side effects, 861
 Glasgow Royal Maternity Hospital protocol, 862-866
 before twenty weeks or chronic hypertension, 862-864
 delivery, 865
 hypertensive crisis, 864-865
 postdelivery, 865
 after twenty weeks, 864
 metabolism of drugs, 860-861
 other effects, 861-862
 peripheral vascular resistance, 851-853
 calcium channel blockers, 853
 diazoxide, 852
 hydralazine, 852
 nitroprusside, 852
 potential harm, 848-850
 fetal risks, 849-850
 maternal risks, 848-849
 new concepts, 653-659
 blood pressure, 654-655
 diagnosis, 654
 etiology, 656
 future, 658-659
 prevention, 657-658
 uteroplacental bed, 656-657
 who is sick? 655-656. See also *Preeclampsia*.

Hypoxia-ischemia, cerebral, 540-542
 prediction of outcome, 541-542
 time course of changes, 540-541

Imaging, magnetic resonance, 536
 Immunity, child abuse law, 157
 Immunoassay, of prenatal drug exposure, 634-635
 Immunocompromised patients, parvovirus B19 infection, 215-216
 Immunoglobulins, in HIV infection, 230-232
 IgA, 231
 IgG, 230
 IgM, 230-231
 prophylaxis and therapy, 303-323
 in congenital and acquired antibody deficiency, 311
 intravenous utilization, 305-308, 314-320
 adverse effects, 318-320

infection prophylaxis protocols, 314-315
 therapy for sepsis, 315-318
 pharmacokinetics, 312-314
 risk factors, 308-311

Incubators. See *Thermoregulation*.
 Infants, candidiasis, and low birthweight, 269-272
 in term infants, 272
 newborn, fibronectin therapy, 335-338
 pneumonia, and mycoplasmal infections, 248
 and prenatal marijuana use, 83-86
 Infectious disease, in pregnant substance abuser, 26-27, 67. See also *Sepsis, neonatal*.
 Informed consent, and neonatal drug dependency, 169-170
 Instrumentation, for near-infrared spectroscopy, 522-525
 in pulse oximetry, 454-455
 for total body electrical conductivity, 615-616
 Interleukin-3, 349-350
 Intoxication symptoms, 98-99

Jaundice, neonatal. See *Phototherapy for neonatal jaundice*.
 Joint disease, parvovirus B19 infection, 214-215

Kinetics, myeloid proliferation, 351-353

Labetalol, and Doppler flow velocimetry, 764-766
 for hypertension in pregnancy, 851
 in preeclampsia, 884-885
 Labor and delivery, anesthesia for, 885-886
 inhibition by aspirin, 789
 and substance abuse, 28, 30
 Lamps for phototherapy, 432-434
 green light, 427-428
 halogen, 428-429
 Legal issues, drug addiction and pregnancy, 147-186
 conclusions, 178-183
 civil intervention during pregnancy, 181-182
 criminalization of prenatal conduct, 178-181
 mandatory reporting of neonatal addiction, 182-183
 removal of drug-dependent infants, 183
 historical background, 148-164

child abuse law, 154-159
 duty to report, common law, 158-159
 statutory, 155-157
 failure to report, 157-158

constitutional law, 148-154
 cruel and unusual punishment, 154
 equal protection, 153-154
 fetus under 14th amendment, 148-150
 maternal privacy rights, 150-152
 autonomy rights, 151-152
 bodily integrity, 150-151
 confidentiality, 152
 parental authority, 152-153
 religious exercise, 154

tort and criminal law, 159-164
 fetus in USC 1983, 163
 homicide, 163-164
 preconception torts, 162-163
 prenatal tort vs. mother, 161-162
 third party and prenatal injury, 159-161
 alive child, 159-160
 wrongful death, 160-161

state intervention, 164-183
 cocaine intoxication through breast feeding, 164-165
 court-ordered treatment, 172-174
 criminalization, 175-178
 arguments in favor of, 177-178
 existing statutes and case law, 175-177
 neonatal drug dependency, 165-170
 case law, 165-167
 informed consent, 169-170
 state statutes, 167-169

prenatal drug use, 170-175
 court-ordered treatment, 172-174
 fetus not a child, 170-172
 Minnesota statute, 174-175

Liability, medical, and biomedical technology, 396-397

Life cycle of human immunodeficiency virus, 33-34

Lung disease, chronic, of newborn, and mycoplasmal infections, 245-248
 and respiratory failure, high-frequency ventilation, 574-576

Lung inflation, during high-frequency ventilation, 571-573. See also *Pulmonary function, measurement and monitoring*.

Lymphadenopathy, in HIV infection, 233

Lymphocyte p24-FCA, 230

Lymphocytes, subclasses in HIV infection, 231

Macula densa, 685

Magnetic resonance imaging, cerebral pathology in eclampsia, 901

Male gender, and neonatal sepsis, 364

Marijuana use in pregnancy, 77-91
 epidemiology, 77-80
 patterns of use, 78-79
 prenatal use, 79-80
 prevalence in women of childbearing age, 77-78
 rates of use during pregnancy, 78

infant outcome, 83-86
 gestation length, 85
 intrauterine growth, 83-85
 morphological abnormalities, 85-86
 neurobehavioral characteristics, 86, 87
 offspring growth at follow-up, 86
 prenatal exposure and subsequent development, 87

methodology, 80-83
 assessment methods, 80-82
 covariate selection, 83
 timing of assessment, 82-83

Maternal, complications with drug use, 26-27
 cardiovascular, 26
 gastrointestinal, 27
 infectious disease, 26-27
 neurologic, 26
 nutrition, 27
 respiratory, 27
 drug exposure, 630-631
 and fetal physiology, cocaine effects, 9-10
 legal issues. See *Legal issues, drug addiction and pregnancy*.
 nutrition and embryotoxicity, cannabis effects, 15-16
 opioid addiction, postpartum management, 71-72
 parvovirus B19 infection, 216-217
 prenatal tort action, 164-165
 streptococcal infection, and neonatal sepsis, 363
 urinary tract infection, 364

Mathematical models of PET, cerebral, 552-554
 blood flow, 553
 blood volume, 553-554
 glucose metabolism, 554
 oxygen metabolism, 554

Meconium, in prenatal drug exposure, 637-641

Membranes, prolonged rupture of, and neonatal sepsis, 362-363

Meningitis, in coagulase-negative staphylococcal infection, 289-290
 and unilateral hearing loss, 511

Metabolic studies, using magnetic resonance spectroscopy, 542-543

Methadone maintenance, animal models, 2-5

Methadone maintenance (*Continued*)
 of pregnant substance abusers, 65–66
 Methodology, assessment of marijuana use during pregnancy, 80–83
 Methyldopa for hypertension in pregnancy, 850
 Middle latency responses, in neonates and infants, 506
 Midtrimester severe preeclampsia, 801–803
 Milk, and HIV infection, 233
 Minnesota legislation, pregnancy intervention, 174–175
 Monitoring of fetus, Doppler flow velocimetry, 757–763
 Morphological abnormalities, and prenatal marijuana, 85–86
 Mucocutaneous infection, in candidiasis, 268–269
 Mycoplasmal infections, 241–262
 central nervous system infections, 249–252
 chronic lung disease of newborn, 245–248
 diagnosis and treatment, 256–259
 epidemiology, 242–243
 genital mycoplasmas, 254
 neonatal sepsis, 253–254
 pathology, 254–256
 pneumonia during infancy, 248
 respiratory disease, 243–245
 congenital and neonatal pneumonia, 243–245
 Myeloid, neonatal, abnormalities, 344–345
 proliferation and kinetics, 351–353

Narcotic use in pregnancy, 51–76
 appropriate uses, 67–68
 breast feeding, 70
 cofactors and complications, 56–57
 diagnosis, 57–60
 disposition and pharmacology, 53–54
 management, 62–67
 abstinent addict in recovery, 66
 infection surveillance, 67–68
 intrapartum, 68
 methadone maintenance, 65–66
 opioid withdrawal, 62–65
 other therapeutic agents, 67
 postpartum, 71–72
 relapse, 66–67
 substance abuse treatment, 67
 neonatal abstinence syndrome, 68–70
 neonatal withdrawal and infant outcome, 71
 parenteral, 885–886
 teratogenicity, 54–56
 work-up of pregnancy addict, 60–62
 Near-infrared spectroscopy. See *Spectroscopy, near-infrared*.

Needles, and HIV infection, 234
 Neonates, abstinence syndrome, 68–70
 drug dependency, legal issues. See *Legal issues*.
 opiate effects, animal models of withdrawal, 5–8
 subacute withdrawal, 71
 Neopterin, in HIV infection, 232
 Nerves, adrenergic, of uteroplacental bed, 656
 Neurobehavioral effects, cocaine effects, 10–12
 opiates, in neonates, 5–8
 prenatal marijuana effects, children, 87
 newborn, 86
 Neurology, and cerebral blood flow and neuronal viability, 558
 of pregnant substance abuser, 26
 Neurotoxicity, animal models of cocaine use, 10
 Neutrophils, physiological function, 345
 storage pools, 344–345
 Nifedipine, and Doppler flow velocimetry, 764–766
 in preeclampsia, 769–772
 Nitroglycerine, in preeclampsia, 884
 Nitroprusside, for hypertension in pregnancy, 852
 in preeclampsia, 883–884
 Nursing, and pulse oximetry, 462–463
 Nutrition, in preeclampsia prevention, 780–785
 of pregnant substance abuser, 27

Obstetrics, and substance abuse, 27–29
 abruptio, 29
 birth defects, 27
 fetal distress, 29
 intrauterine growth retardation, 28–29
 preterm labor, 28
 spontaneous abortion, 28
 stillbirth, 29
 Occlusion method, of pulmonary function measurement, 591–595
 Oliguria, in preeclampsia, 740–741
 Opiates, animal models of use, 2–8
 pharmacology, 53–54. See also *Narcotic use in pregnancy*.
 Organ failure, multisystem, fibronectin therapy, 330–334
 Osteoarthritis, and candidiasis, 272
 Oxygen metabolism, cerebral, PET measurement, 559
 Oxygenation during high-frequency ventilation, 570–571. See also *Pulse oximetry*.

P24 antigen, 229
Parental authority, 152-153
Parvovirus B19, human, 209-225
epidemiology and natural history, 212
erythema infectiosum (fifth disease) and
other rash diseases, 213-214
future needs, 220-221
hematologic complications, 215-216
 aplastic anemia with increased red
 blood cell turnover, 215
 chronic anemia in immunocompromised
 patients, 215-216
joint disease, 214-215
laboratory diagnosis, 219-220
in pregnancy, 216-219
 fetal and neonatal infections, 217-219

Pharmacokinetics of intravenous
 immunoglobulin, 312-314

Pharmacology, of cocaine, 120-121
 opioid, in pregnancy, 54

Photon attenuation, in PET, 551-552

Phototherapy for neonatal jaundice, 432-439
 efficacy of, 424-427
 green light, 427-428
 halogen lamp, 428-429
 indications for, 430-431
 infant well-being during, 434-437
 lamp efficacy, 432-434
 mechanism of action, 429
 termination of, 431-432

Placenta, abruption, and substance abuse, 29
 antihypertensive drug effects, 861
 pathophysiology in hypertension, 810-813

Plant chemistry, of cannabis, 13

Plasma volume expansion, 742-745

Platelets, in preeclampsia, 718-720

Pneumograms, in cardiorespiratory
 monitoring, 478-483

Pneumonia, in coagulase-negative
 staphylococcal infection, 290-291
 in mycoplasmal infections, congenital and
 neonatal, 243-245
 during infancy, 248

Pneumotachometer, 582-585

Polymerase chain reaction, HIV detection, 38-39, 229

Positron emission tomography, 549-562
 principles of, 549-554
 mathematical models, 552-554
 photon attenuation, 551-552
 radiotracers, 552
 spatial resolution, 551
 studies in infants, 555-559
 cerebral blood flow, in intraventricular
 hemorrhage, 555-556
 neuronal viability, and neurologic
 outcome, 558

 in perinatal asphyxia, 556-557
 cerebral oxygen metabolism, 559
 deoxyglucose uptake, in perinatal asphyxia, 557
 developmental changes in cerebral glucose metabolism, 558

Preconception torts, 162-163

Preeclampsia, anesthesia, 875-889
 for labor and delivery, 885-886
 management, 878-885
 epidural anesthesia, 880-881
 general anesthesia, 881-885
 monitoring, 879-880
 preoperative preparation, 878-879

antihypertensive drugs, 856-857

 eclampsia and coagulation, 713-726

 antithrombin III and thrombin anti-thrombin complexes, 714-716

 coagulation abnormalities, 721-722

 factor VIII, 716-717

 and fetal coagulation, 720

 fibrin metabolism, 717-718

 other soluble factors, 717

 platelets, 718-720

 proteins C and S, 716

 hemodynamics, 727-747

 blood pressure, 728-730

 blood volume, 727-728

 cardiac output, 730-732

 colloid oncotic pressure, 735-737

 oliguria, 740-741

 plasma volume expansion, 742-745

 pulmonary capillary wedge pressure, 733

 pulmonary edema, 737-740

 systemic vascular resistance, 732

management, 793-808

 HELLP syndrome, 803-805

 intrapartum, 805-806

 mild preeclampsia, 795-799

 postpartum, 806-807

 severe preeclampsia, 799-803

pathophysiology, 661-682

 endothelium, 669-671

 model of, 672

 normal pregnancy, 662-664

 preeclampsia, 665-669

 speculation, 672-673

 prevention of, 779-792

 rationale, 779-780

 strategies, 780-789

 nutritional, 780-785

 pharmacologic, 786-789

renin-angiotensin-aldosterone system, 683-711

 biochemistry and physiology, 684-689

 aldosterone, 689

 angiotensin II, 687-689

 angiotensin-converting enzyme, 687

 angiotensinogen, 687

Preeclampsia (*Continued*)
 first messenger mechanisms, 685-686
 prorenin, 684
 prostaglandins, 686-687
 renin, 684-685
 second and/or third messenger systems, 686
 extrarenal systems, 689-690
 in normal pregnancy, 690-697
 biochemistry and physiology, 691-695
 uteroplacental circulation, 696-697
 pathophysiology, 701-703
 in preeclampsia, 698-700

Pregnancy, and chemical dependency. See *Chemical dependency and pregnancy*.
 parvovirus B19 infection, 216-219

Prematurity, and neonatal sepsis, 363-364

Prenatal, alcohol use in pregnancy, 104-106
 cocaine exposure, developmental defects, 141-144
 injury, tort action, 161-162
 child born alive, 159-160
 wrongful death, 160-161

Pressures, partial. See *Pulse oximetry*.
 Prophylaxis with immunoglobulins. See *Immunoglobulin prophylaxis and therapy*.
 Prorenin, in normal pregnancy, 691-692
 in renin-angiotensin-aldosterone system, 684

Prostaglandins, and renin release, 686-687
 Prostanoids and uteroplacental bed, 656-657

Proteins, brain, cannabis effects, 17
 C and S, 716

Pulmonary, candidiasis, 269-270
 capillary wedge pressure, 733
 disease, in HIV infection, 233
 edema, in preeclampsia, 737-740
 function, measurement and monitoring, 581-609
 data interpretation, 604-606
 and body weight and growth, 605
 intrapatient variability, 605
 lung volume effects, 604-605
 and other aspects of lung function, 605-606

electrical conductivity, total body, 611-627
 applications, 622-624
 data interpretation, 617-621
 future developments, 624-625
 instrumentation, 615-616
 measurement precision and accuracy, 621-622

equipment, 582-587
 flow pneumotachometer, 582-585
 hot wire anemometers, 584-585
 pressure measurements, 585-587
 airway, 585

calibration, 587
 esophageal, 585-587
 tidal volume, 585

future prospects, 606-607

mechanics measurements, 587-604
 conventional method, 595-599
 functional residual capacity, 602-604
 occlusion method, 591-595
 multiple occlusions, 591-594
 passive exhalation, 594-595
 regression method, 599-602
 static compliance, 589-591

injury, treatment with high-frequency ventilation, 573-578

Pulse oximetry, 441-472
 blood oxygen transport, 441-444
 clinical applications, 457-467
 comparison of SpO_2 with PaO_2 and tcPO_2 , 458-460
 in delivery room, 463-464
 in different gestational ages, 460-462
 limitations in neonates, 465-467
 nursing and medical procedure effects, 462-463
 during surgery and anesthesia, 464-465
 measurement of blood oxygen saturation, 448-453
 normal SpO_2 values, 467-469
 principles of, 453-456
 oximeter calibration and reference instrumentation, 454-455
 technology transition, 445

Radiant warmers. See *Thermoregulation*.
 Radiotracers, in PET, 552

Rash diseases, parvovirus B19, 213-214

Regression method of pulmonary function measurement, 599-602

Religion, legal issues, 154

Renin, in normal pregnancy, 692
 in preeclampsia, 698. See also *Preeclampsia, renin-angiotensin-aldosterone system*.

Reporting of neonatal addiction, 187

Resistance. See *Pulmonary function, measurement and monitoring*.

Respiration, cardiorespiratory monitoring, 474-475

Respiratory disease, and neonatal mycoplasmal infections, 243-245

Respiratory system of pregnant substance abuser, 27

Risk factors, of hypertension in pregnancy, 848-850

immunoglobulin prophylaxis and therapy, 308-311
 for neonatal sepsis, 362-365

RNA, brain, cannabis effects, 17

Screening, automatic, of auditory brainstem response, 505-506

Doppler flow velocimetry, 755-756

for herpes simplex virus infection, 193-196

for HIV infection, 235-236

for neonatal sepsis, 364, 375

SensorMedics 3100 ventilator, 567-568

Sepsis, neonatal, 193-381

- candidiasis, 263-280
- congenital, 265-275
- predisposing factors, 264-265

clinicopathology of diagnosis, 361-381

- diagnostic tests, nonspecific, 369-375
- laboratory tests, 365-369
- management, 375-377
- risk factors, 362-365

coagulase-negative staphylococcal infection, 281-302

- biology, 282-285
- clinical manifestations, 288-291
- diagnosis, 291-294
- pathogenesis, 285-288
- prevention, 296-297
- treatment, 294-296

cytokine therapy, 343-359

- cytokines, 345-351
- myeloid abnormalities, 344-345
- and neonatal host defense, 351-355

fibronectin therapy, 325-341

- clinical trials, 328-334
- immunotherapy in newborn infants, 335-338
- structure-function relationships, 326-328

herpes simplex virus infection, 193-208

- antenatal screening programs, 193-196
- chemotherapy, 202-204
- determinants of disease acquisition and severity, 199-202
- recognition and diagnosis of, 196-199
- human immunodeficiency virus infection, 227-239
- clinical manifestation in neonate, 232-233
- counseling, 236
- epidemiology, 227
- laboratory diagnosis, 228-232
- management, 236
- postnatal acquisition, 233-234
- screening policy, 235-236
- transmission, 228
- treatment, 234-235
- immunoglobulin prophylaxis and therapy, 303-323
- in congenital and acquired antibody deficiency, 311
- intravenous, in neonates, 314-320
- intravenous utilization, 305-308
- pharmacokinetics, 312-314

risk factors, 308-311

mycoplasmal infections, 241-262

chronic lung disease of newborn, 245-248

CNS infections, 249-252

diagnosis and treatment, 256-259

epidemiology, 242-243

genital mycoplasmas, 254

pathology, 254-256

pneumonia during infancy, 248

respiratory disease, 243-245

parvovirus B19, human, 209-225

- epidemiology and natural history, 212
- erythema infectiosum (fifth disease) and other B19 rash diseases, 213-214

future needs, 220-221

hematologic complications, 215-216

joint disease, 214-215

laboratory diagnosis, 219-220

- in pregnancy, 216-219

virologic background, 210-212

Septicemia, coagulase-negative staphylococcal, 288-289

Skin, artificial. See *Thermoregulation*.

Slime, in coagulase-negative staphylococcal infection, 287-288

Smoke chemistry, of cannabis, 13-15

Social services for pregnancy substance abusers, 30

Spatial resolution, in PET, 551

Species, of coagulase-negative staphylococci, 286-287

Spectroscopy, magnetic resonance. See *Magnetic resonance spectroscopy*.

- near-infrared, 519-534
- background, 519-522
- data instrumentation, 525-527
- in future, 532-533
- instrumentation, 522-525
- neonatal studies, 527-532

Staphylococcal infection, coagulase-negative, 281-302

- biology, 292-295
- epidemiology, 283-284
- identification and classification, 282-283
- clinical manifestations, 288-291
- endocarditis, 289
- meningitis, 289-290
- miscellaneous infections, 291
- necrotizing enterocolitis, 290
- pneumonia, 290-291
- septicemia, 288-289
- coagulase-negative staphylococcal infection, 281-302
- ecology, 284-285

diagnosis, 291-294

pathogenesis, 285-288

- bacterial factors, 286-288
- delta-like toxin, 288
- bacterial factors, 286-288

Staphylococcal infection (*Continued*)
 slime, 287-288
 species, 286-287
 host factors, 285-286
 routes of infection, 285
 prevention, 296-297
 treatment, 294-296

State intervention in drug addiction. See
Legal issues.

Static compliance, 589-591

Stillbirth, and substance abuse, 29

Streptococcus, group B, maternal, and
 neonatal sepsis, 363

Structure-function relationships, in
 fibronectin therapy, 326-328

Surgery, pulse oximetry during, 464-465

Systemic vascular resistance (SVR), 732

Technology and the neonate, 389-645
 biomedical technology, 389-401
 future of, 398-400
 risks and pitfalls, 397-398
 use of, 391-397

cardiorespiratory monitoring, 473-495
 blood gases, 476-477
 documented monitoring, 483-494
 heart rate, 475-476
 obstructive apnea, 477-478
 pneumograms, 478-483
 respiration, 474-475

electrical conductivity, total body, 611-627

tissue properties and measurement theory, 612-615

evoked potential assessment of auditory system, 497-518

auditory brainstem response, 500-506

case studies, 509-516

cortical auditory evoked potentials, 507-509

electrophysiologic techniques, 498-499

middle latency responses, 506

magnetic resonance spectroscopy, 535-548

animal studies, 545

cerebral hypoxia-ischemia, 540-542

and cerebral ultrasonography, 543-545

future, 545-546

imaging-spectroscopy, 537

and magnetic resonance imaging, 536

metabolic studies, 542-543

normal brain spectrum, 537-540

phototherapy for neonatal jaundice, 423-439

efficacy of, 424-427

green light, 427-428

halogen lamp (metal halide lamp), 428-429

indications, 430-431

infant well-being during, 434-437

lamp efficacy, 432-434

mechanism of action, 429

termination of, 431-432

positron emission tomography, 549-562

principles of, 549-554

studies in infants, 555-559

prenatal drug exposure, 629-645

laboratory tests, 631-636

maternal interview, 630-631

specimens used, 636-643

pulmonary function measurement and monitoring, 581-609

data interpretation, 604-606

equipment, 582-587

future of, 606-607

methods to measure mechanics, 587-604

pulse oximetry, 441-472

blood oxygen transport, 441-444

clinical applications, 457-467

measurements of blood oxygen saturation, 446-448, 448-453

normal SpO_2 values, 467-469

principles of, 453-456

technology transition, 445

spectroscopy, near-infrared, 519-534

background, 519-522

data interpretation, 525-527

in future, 532-533

instrumentation, 522-525

neonatal studies, 527-532

thermoregulation, 402-422

future of, 417-420

history of, 403-413

physiology of, 413-417

ventilation, high-frequency, 563-580

current ventilators, 564-568

optimal gas exchange, 568-573

treatment strategy, 573-578

Teratogenicity, of alcohol, 99-100

of aspirin, 788

of opioids, 54-56

Thermoregulation, 403-422

future of, 417-420

history of, 403-413

physiology of, 413-417

Thrombin antithrombin complexes, 714-716

Thrush, in candidiasis, 268-269

in HIV infection, 233

Tidal volume measurement, 585

Tort and criminal law, 159-164

Toxicology, of HIV infection, 232

Toxin, delta-like, 288

Tracheal aspirates, 368

Transfusion, and HIV infection, 234

Transmission of HIV infection, 35-36, 228

perinatal 39-41

Trimethaphan, 884

Ultrasoundography, cerebral, and magnetic resonance spectroscopy, 543-545
obstetric, 813-814. See also *Doppler flow velocimetry*.

Ureaplasma urealyticum. See *Mycoplasma infections*.

Urinary tract infection, candidiasis, 271
maternal, and neonatal sepsis, 364

Urine, culture for neonatal sepsis, 367-368
in prenatal drug exposure, 636-637

Uteroplacental bed, 656-657
Doppler flow velocimetry, 753-754
in preeclampsia, 700
and renin-angiotensin-aldosterone system, 696-697

Ventilation, high-frequency, 563-580
current ventilators, 564-568

Bunnell Life Pulse, 564-566
HFV Infant Star, 567
Humming II, 566-567
SensorMedics 3100, 567-568
optimal gas exchange strategies, 568-573
lung inflation, 571-573
oxygenation, 570-571
ventilation, 569
treatment strategies, 573-578
pulmonary injury, 573-578

Virus. See specific viruses.

Waveforms. See *Doppler flow velocimetry*.

Western blot, of HIV infection, 230

White blood cell count, and neonatal sepsis, 369-372

Work load of caretakers, and biomedical technology, 394-395

Wrongful death, 160-161